

Effect of varying disease management programs and digging dates on disease severity and yield of peanut in North Carolina

L. LUX*, E. FOOTE, and D.L. JORDAN, NC State Extension, Raleigh, NC 27695

The timing of digging dates relative to optimum maturity is critical in peanut and can have a major impact on pod yield, pod quality, and overall economic return. Digging date decisions can be challenging and can be heavily influenced by disease severity at the time of digging and vine inversion as high disease pressure can cause pod shedding and yield loss. This makes digging date decisions difficult as producers choose digging dates that risk yield loss deciding to dig prior to optimum maturity or waiting until optimum maturity. Previous research results recommend digging earlier than optimum maturity due to the pod shed that occurs with disease presence. The objective of this study was to evaluate the effect of varying fungicide programs and digging dates relative to optimum maturity.

Research was conducted at one location to determine incidence of late leaf spot, canopy defoliation caused by this disease, and pod yield when peanut was dug 1 week prior to optimum maturity, at optimum maturity, and at 1, 2, 3, and 4 weeks after optimum maturity. For each digging date, fungicide program consisting of: A) no fungicide during the cropping cycle; B) a program of chlorothalonil followed by Miravis plus Elatus, followed by Provost Silver, and a final application of chlorothalonil; C) a three-spray program of chlorothalonil alone or with tebuconazole; D) the spray program listed in program C with a “rescue” application of Provost Silver plus microionized sulfur one week prior to optimum maturity when disease incidence was approximately 20%. Pod yield decreased rapidly for the non-treated control as digging was delayed (5,770 lbs/acre at optimum maturity and 1,250 lbs/acre at the final digging date. Yield decreased when fungicides were applied but at a less dramatic rate than non-treated peanut. Yield for peanut at the final digging date ranged from 4,440 to 5,430 lbs/acre when fungicides were applied. The rescue treatment of Provost Silver plus microionized sulfur had less disease when digging was delayed compared with other treatments. However, yield did not differ compared with the program containing Miravis plus Elatus and Provost Silver applied prior to optimum maturity. These results are designed to provide growers and their advisors with information on yield loss with various levels of disease at optimum maturity should digging be delayed due to weather conditions or logistical challenges. Temperature was relatively cool during the period of time when digging dates were compared and rainfall was not intense. Future research under warmer and wet conditions may have different results.